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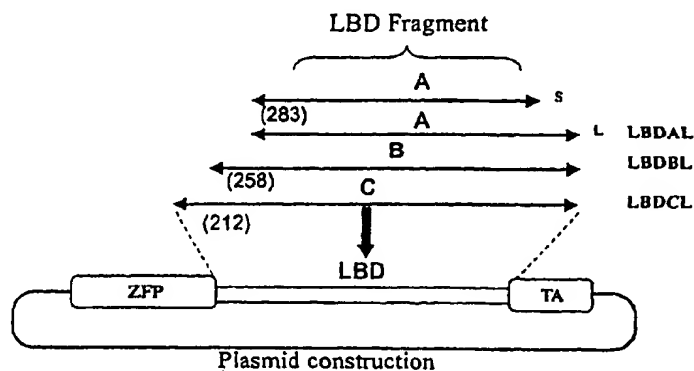
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[Continued on next page]

(54) Title: LIGAND ACTIVATED TRANSCRIPTIONAL REGULATOR PROTEINS



ZFP	Binding Sequence	Chimerics Constructed
C7	GCG TGG GCG	AS, BS, CS, AL, BL, CL
E2C	GGG GCC GGA g	AS, BS
2C7	GCG TGG GCG GCG TGG GCG	AS, BS, CS

(57) Abstract: Fusion proteins for use as ligand-dependent transcriptional are provided. The fusion proteins include a nucleotide binding domain operatively linked to a ligand-binding domain. They also can include a transcription regulating domain. The nucleotide binding domain is a zinc-finger peptide that binds to a targeted contiguous nucleotide sequence of from 3 to 18 nucleotides are provided. The fusion proteins are used for gene therapy. Also provided are polynucleotides encoding the fusion proteins, expression vectors, and transfected cells.

[illegible]

**(15) Information about Correction:**  
see PCT Gazette No. 38/2002 of 19 September 2002, Section II

- with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/10430

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/47 C07K14/72 C12N15/62 C12N15/86 A61K38/17  
C07K14/705

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, MEDLINE, BIOSIS, EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 98 18925 A (BAYLOR COLLEGE MEDICINE ;MALLEY BERT O (US); TSAI MING JER (US); T) 7 May 1998 (1998-05-07) cited in the application...</p> <p>figures 10,11; examples 36,37</p> <p>— -/-</p>	<p>1-6, 9, 11-21, ..... 23, 24, 26-45, 47-62, 65, 67-73</p>

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

26 January 2001

Date of mailing of the international search report

06.02.01

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/10430

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 540 065 A (SALK INST FOR BIOLOGICAL STUDI) 5 May 1993 (1993-05-05)  figures 4,11; examples ---	1-3,6,9, 11,12, 14,16, 17,23, 24, 26-31, 39,47, 49-54, 57,62, 65,67-73
Y	WO 98 54311 A (BARBAS CARLOS F III ;GOTTESFELD JOEL M (US); SCRIPPS RESEARCH INST) 3 December 1998 (1998-12-03) the whole document ---	1-21,23, 24,26-73
Y	BURCIN M M ET AL: "A REGULATORY SYSTEM FOR TARGET GENE EXPRESSION" FRONTIERS IN BIOSCIENCE, vol. 3, 1 March 1998 (1998-03-01); pages 1-7, XP000874619 the whole document -----	1-21,23, 24,26-73

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 00/10430

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Although claims 47-68 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 22 25  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 22 25

Present claims 22 and 25 relate to fusion proteins which are defined by the nucleic acid sequence SEQ ID Nos 1-18 of the expression plasmids comprising the coding sequence of said fusion protein. Such a definition does not allow a meaningful database search to be carried out as it is not possible to ascertain from either the figures or the description of the present application where the coding sequence of said fusion proteins is located within the expression plasmid.

The claims 22 and 25 are thus considered to lack clarity within the meaning of Article 6 PCT to such an extent as to render a meaningful search of the claims impossible.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/10430

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9818925 A	07-05-1998	AU 6908998 A EP 0935657 A	22-05-1998 18-08-1999
EP 0540065 A	05-05-1993	US 4981784 A AT 124721 T AT 182685 T AU 628312 B AU 2818889 A AU 665039 B AU 3026892 A DE 3854120 D DE 3856354 D DE 3856354 T DK 136890 A EP 0325849 A ES 2073408 T IE 68590 B JP 10295385 A JP 10279599 A JP 3006716 B JP 3503597 T KR 9709951 B WO 8905355 A US 5571692 A US 5548063 A US 5171671 A US 5599904 A US 5274077 A	01-01-1991 15-07-1995 15-08-1999 17-09-1992 05-07-1989 14-12-1995 22-04-1993 10-08-1995 02-09-1999 16-12-1999 01-06-1990 02-08-1989 16-08-1995 26-06-1996 10-11-1998 20-10-1998 07-02-2000 15-08-1991 19-06-1997 15-06-1989 05-11-1996 20-08-1996 15-12-1992 04-02-1997 28-12-1993
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